

CLEAN CLAIMS (1-59)

1           1. ( Amended) A method of operating a video cassette recorder having a playback mode  
2 of operation for reproducing a video tape and a standby mode of operation wherein the video tape  
3 is not reproduced, the video cassette recorder including a microcomputer, at least one input  
4 device, a video signal processor generating a first video signal, a character generator receiving  
5 first control signals from the microcomputer for generating a second video [signals] signal  
6 including character data, a mixer receiving said first video [signals] signal and said second video  
7 signal and providing a mixed video signal to a first output terminal, and an audio signal  
8 processor providing an audio signal to a second output terminal, said first output terminal and  
9 said second output terminal being adapted to supply reproducible video signals and reproducible  
10 audio signals to an external television, said method comprising the steps of:

11           [(a)] when the video cassette recorder is in said standby mode of operation, receiving a  
12 lock function code from said input device;

13           [(b)] providing a code sequence to said microcomputer via said input device;

14           [(c)] passing said code sequence to said character generator for inclusion in said second  
15 video signal;

16           [(d)] when a last character of said code sequence is received by said microcomputer,  
17 immediately verifying the status of the video cassette recorder so as to determine whether said  
18 video cassette recorder is in a locked state or in an unlocked state;

19           [(f)] when said video cassette recorder is in said unlocked state, immediately generating a

20 second control signal and a third control signal to terminate transmission of said first video signal  
21 to said mixer and said audio signal to said second output terminal, respectively;

22 [(g)] when said video cassette recorder is in said locked state, immediately comparing a  
23 stored previous code sequence with said code sequence;

24 [(h)] when said code sequence and said previous code sequence match, immediately  
25 terminating transmission of said second control signal and said third control so as to permit  
26 output of said first video signal and said audio signal; and

27 [(i)] when said code sequence [ands aid] and said previous code sequence do not match,  
28 passing different first control signals to said character generator for inclusion of an error  
29 indication in said second video signal.

1 2. A video cassette recorder having a playback mode of operation for reproducing a  
2 video tape and a standby mode of operation wherein the video tape is not reproduced, said video  
3 cassette recorder comprising:

4 a microcomputer;

5 at least one input device providing a coded sequence and a lock function signal to said  
6 microcomputer;

7 a video signal processor generating a first video signal;

8 a character generator receiving first control signals from the microcomputer for  
9 generating second video signals including character data;

10 a mixer receiving said first video signal and said second video signal and providing a

11 mixed video signal to a first output terminal; and  
12 an audio signal processor providing an audio signal to a second output terminal,  
13 said first output terminal and said second output terminal respectively supplying  
14 reproducible video signals and reproducible audio signals to an external television,  
15 said video cassette recorder receiving said lock function signal only in said standby mode  
16 of operation,  
17 said microcomputer responding to a last character of said code sequence received by said  
18 microcomputer by immediately verifying the status of the video cassette recorder to determine  
19 whether said video cassette recorder is in a locked state and whether said video cassette recorder  
20 is in an unlocked state.

1 3. (Amended) The video cassette recorder according to claim 2, further comprising:  
2 a video muting circuit coupled between said video signal processor and said mixer [for],  
3 transmitting said first video signal; and  
4 an audio muting circuit operatively coupled to said audio processor;  
5 said microcomputer [for] immediately providing a second control signal and a third  
6 control signal to said video muting circuit and said audio muting circuit to terminate transmission  
7 of said first video signal to said mixer and said audio signal to said second output terminal,  
8 respectively, when said video cassette recorder is in said unlocked state;  
9 said microcomputer [for] immediately comparing a stored previous code sequence with  
10 said code sequence when said video cassette recorder is in said locked state;

11           said microcomputer [for] immediately terminating transmission of said second control  
12           signal and said third control signal so as to permit output of said first video signal and said audio  
13           signal when said code sequence and said previous code sequence match; and

14           said microcomputer [for] supplying different first control signals to said character  
15           generator so as to include an error indication in said second video signal when said code  
16           sequence and said previous code sequence do not match.

1           4. (Twice Amended) A video tape recorder having a playback mode of operation for  
2           reproducing a video tape and a standby mode of operation wherein the video tape is not  
3           reproduced and an on screen display system, said video tape recorder comprising:

4           a microcomputer responsive to input signals [for] from a keyboard or a remote control  
5           receiver for controlling the video tape recorder;

6           a video signal processor [for] receiving and processing [for display of] a first video signal  
7           played back from a tape for display;

8           an audio processor [responsive] responding to audio signals recorded on said tape [for] by  
9           generating voice signals;

10          a character generating circuit [responsive] responding to character data output from said  
11          microcomputer [for] by generating a second video signal for display;

12          a mixer [for] receiving said first video signal and said second video signal and [for]  
13          mixing said first and second video signals for display;

14          a video mute circuit [responsive] responding to a first control output of said

15 microcomputer [for] by preventing said first video signal from being [output] applied to said  
16 mixer; and

17 an audio mute circuit [responsive] responding to a second control output of said  
18 microcomputer [for] by muting said voice signal;

19 said microcomputer [for] generating said first control output and said second control  
20 output for a period of time defined by a first input of lock key data followed by a secret code and  
21 a second input of said lock key data followed by a [said] secret code; and

22 said microcomputer [for] immediately terminating transmission of said first control  
23 output upon expiration of said period of time.

1 5. (Thrice Amended) The video [cassette] tape recorder according to claim 4, said  
2 microcomputer [for] determining if there is a lock key data input from said keyboard or said  
3 remote control when said video tape recorder is in a power-standby status and [controls]  
4 controlling said character generating circuit to display a corresponding prompt message on a  
5 screen requesting a user to input a secret code one character at a time[.];

6 said character generating circuit [for] changing said displayed prompt message to  
7 correspond to a desired one of a sequence of characters of said secret code said user is to input  
8 following an input of a previous one of said characters[.];

9 said microcomputer [for] storing each input character of said secret code if said input  
10 character corresponds to a numerical key of [said] the keyboard or remote control,

11 said microcomputer [for] immediately checking said video cassette recorder to determine

12 if said video cassette recorder is in a locked state after said user completes the inputting of the  
13 secret code,

14 said microcomputer [for] controlling said video mute circuit and said audio mute circuit  
15 responsive to said first control output and said second control output, respectively, to prevent  
16 output of said first video signal and to mute said voice signal if said video cassette recorder is  
17 determined [not] to not be in said locked state, and

18 said microcomputer [for] comparing said input secret code to a code previously stored if  
19 said video cassette recorder is determined to be in said locked state and, if there is a match, [for]  
20 determining that said period of time has expired and disabling said video mute circuit and said  
21 audio mute circuit.

1 6. (Amended) The video tape recorder according to claims 5, said microcomputer [for]  
2 memorizing said secret code when it is determined that said system is not in said locked state.

1 7. (Amended) A locking method for controlling an on-screen display system having a  
2 lock key on a keyboard or remote control, said method comprising the steps of:

3 checking for a key-data input signal from said keyboard or remote control during a system  
4 power standby mode of operation until said checking step identifies said key-data input signal as  
5 being indicative of an input from said lock key;

6 displaying prompts, on a screen, for a lock function setting state by employing an on-  
7 screen display function when the checking step identifies said key-data input signal as being

8 indicative of an input from said lock key and sequentially storing and displaying, on said screen,  
9 a secret code input by a user in response to said prompts;

10 immediately determining whether the on-screen display system is in a locked state with  
11 said on-screen display system preventing viewing of any video program other than said prompts  
12 for said lock function setting state after the secret code is input to the on-screen display system;

13 storing the secret code as a lock code, clearing said screen of said prompts and said secret  
14 code displayed during the displaying step, and locking the on-screen display system when the  
15 determining step determines that the on-screen display system is not in said locked state;

16 making a comparison between the secret code and a stored lock code already in the on-  
17 screen display system when the determining step determines that the on-screen display system is  
18 in said locked state;

19 displaying an error message by utilizing the on-screen display function when said  
20 comparison determines that the secret code and the stored lock code do not match each other; and

21 clearing the secret code from the screen [and], unlocking the on-screen display system  
22 [with said on-screen display system] and enabling said viewing when said comparison  
23 determines that the secret code and the stored lock code match each other.

1 8. (Twice Amended) A locking/unlocking method for a video tape recorder system  
2 having a microcomputer for controlling the video tape recorder system, a key matrix for  
3 transmitting user input information to the microcomputer, a remote control receiver for receiving  
4 remote control signals from a remote control transmitter and converting the signals into digital

5 key data, a video signal processor for reproducing and outputting a video signal of a video  
6 program recorded on a video tape, a sound signal processor for reproducing and outputting a  
7 sound signal of the video program recorded on the video tape, an on screen display unit for  
8 receiving alphanumeric information data from the microcomputer and displaying an image signal  
9 of the alphanumeric information data on a display screen, a mixer for mixing the video signal  
10 from the video processor and the image signal from the on screen display unit and outputting the  
11 mixed signal to a TV receiver, a video mute circuit for muting the video signal from the video  
12 processor under the control of the microcomputer, a sound mute circuit for muting the sound  
13 signal from the sound processor, said method comprising the steps of:

14 [(a)] checking for an input signal[,] to said microcomputer, from a lock key of said key  
15 matrix during a system power stand-by state and remaining in said stand-by state until said  
16 checking step determines that said input signal has been input to said microcomputer;

17 [(b)] displaying prompts for setting a lock state of a lock setting function using an on  
18 screen display function for displaying said prompts on said display screen when said checking  
19 step determines said input signal from said lock key has been input;

20 [(c)] storing in a memory and displaying on said display screen a secret code sequentially  
21 input by a user using the key matrix in response to said prompts;

22 [(d)] immediately determining whether the lock state of said video tape recorder system is  
23 a locked state or an unlocked state after a last character of said secret code has been input;

24 [(e)] storing the input secret code as a lock secret code, clearing the display screen and  
25 locking the video tape recorder system if the lock state is determined to be in said unlocked state;



26            [(f)] comparing the input secret code with a lock code previously stored in the  
27 microcomputer if the lock state is determined to be in said locked state;

28            [(g)] displaying an error message according to the alphanumeric information data from  
29 said microcomputer when said comparing step determines that said input secret code does [doe]  
30 not match said previously stored lock code; and

31            [(h)] clearing the secret code from the display screen, and unlocking the video tape  
32 recorder system [if] when said comparing step determines that said input secret code matches  
33 said previously stored lock code.

1            9. (Twice Amended) A video system having a mode of operation for generating output  
2 signals having video components and a standby mode of operation wherein said output signals  
3 are not generated, said system comprising:

4            a microcomputer responding to input signals selectively input from a keyboard or a  
5 remote control receiver by controlling production of video images corresponding to said video  
6 components through generation of a control output for a period of time defined by a first input of  
7 lock key data followed by a secret code and a second input of said lock key data followed by said  
8 secret code;

9            a video signal processor receiving and processing a first video signal;

10           a character generating circuit responding to character data output from said  
11 microcomputer by generating a second video signal;

12           a mixer generating said video components by mixing said first video signal and said

13 second video signal; and

14 a video mute circuit responding to said control output by preventing said first video signal  
15 from being output to said mixer.

1 10. (Amended) The video system of claim 9, further comprised of said microcomputer  
2 terminating transmission of said control output upon expiration of said period of time.

1 11. (Amended) The video system of claim 9, further comprised of said microcomputer  
2 responding to a determination that lock key data has been input from said keyboard or said  
3 remote control when said system is in said standby mode, by controlling said character  
4 generating circuit to display a corresponding message on a video screen prompting a user of said  
5 system to input a secret code one character at a time.

1 12. (Amended) The video system of claim 11, further comprised of said character  
2 generating circuit changing said displayed prompt message seriatim to display corresponding  
3 characters in a sequence of said secret code input by the user.

1 13. (Amended) The video system of claim 9, further comprising:  
2 said microcomputer making a determination of whether said system is in a locked state  
3 after completion of input of said secret code;  
4 said microcomputer generating said control output when said determination indicates that

5 said system is not in said locked state; and

6 said microcomputer making a comparison of said secret code to an earlier code  
7 previously stored when said determination indicates that said system is in said locked state and,  
8 when said comparison establishes a match between said secret code and said earlier code,  
9 terminating generation of said control output.

1 14. (Amended) The video system of claim 13, further comprised of said microcomputer  
2 memorizing said secret code when said determination establishes that said system is not in said  
3 locked state.

1 15. (Amended) A video system having a mode of operation for generating output signals  
2 having audio components and video components and a standby mode of operation wherein said  
3 output signals are not generated, said system comprising:

4 a microcomputer responding to input signals selectively input from a keyboard or a  
5 remote control receiver by controlling broadcast of audio sounds corresponding to said audio  
6 components through generation of a control output for a period of time defined by a first input of  
7 lock key data followed by a secret code and a second input of said lock key data followed by said  
8 secret code;

9 a video signal processor receiving and processing a first video signal;

10 an audio processor generating said audio components;

11 a character generating circuit responding to character data output from said

12 microcomputer by generating a second video signal;

13 a mixer generating said video component by mixing said first video signal and said  
14 second video signal; and

15 an audio mute circuit responding to said control output by muting said audio sounds.

1 16. (Amended) The video system of claim 15, further comprised of said microcomputer  
2 terminating transmission of said control output upon expiration of said period of time.

1 17. (Twice Amended) The video system of claim 15, further comprised of said  
2 microcomputer responding to a determination that lock key data has been input from said  
3 keyboard or said remote control receiver when said system is in said standby mode, by  
4 controlling said character generating circuit to display a corresponding message on a video screen  
5 prompting a user of said system to input said secret code one character at a time.

1 18. (Amended) The video system of claim 17, further comprised of said character  
2 generating circuit changing said displayed prompt message seriatim to display corresponding  
3 characters in a sequence of said secret code input by the user.

1 19. (Amended) The video system of claim 15, further comprising:  
2 said microcomputer making a determination of whether said system is in a locked state  
3 after completion of input of said secret code;

4        said microcomputer generating said control output when said determination indicates  
5        that said system is not in said locked state; and

6        said microcomputer making a comparison of said secret code to an earlier code  
7        previously stored when said determination indicates that said system is in said locked state and,  
8        when said comparison establishes a match between said secret code and said earlier code,  
9        terminating generation of said control output.

1        20. (Twice Amended) A process for operating a video system, comprising:  
2        making a subjective evaluation of content portrayed by a first video signal to be  
3        transmitted for reception by a video display apparatus exhibiting a system power standby mode  
4        of operation and a second mode of operation providing varying visual images corresponding to  
5        said first video signal;

6        during said system power standby mode of operation, selectively generating a code in  
7        dependence upon said evaluation; and  
8        responding to said code by barring transmission of said first video signal to said video  
9        display apparatus.

1        21. (Amended) A method of operating a video system, comprising the steps of:  
2        providing said video system with a playback mode of operation for reproducing a video  
3        image and a standby mode of operation wherein the video image is not reproduced, the video  
4        system including a microcomputer, at least one input device, a video signal processor generating

5 a first video signal, a character generator receiving first control signals from the microcomputer  
6 for generating second video signals including character data, a mixer receiving said first video  
7 signal and said second video signals and providing a mixed video signal to a first output terminal  
8 and an audio signal processor providing an audio signal to a second output terminal, said first  
9 output terminal and said second output terminal being adapted to supply reproducible video  
10 signals and reproducible audio signals to an external television;

11 when the video system is in said standby mode of operation, receiving a lock function  
12 code from said input device;

13 providing a code sequence to said microcomputer via said input device;

14 passing said code sequence to said character generator for inclusion in said second video  
15 signal;

16 when a last character of said code sequence is received by said microcomputer,  
17 immediately verifying the status of the video system so as to determine whether said video  
18 system is in a locked state or in an unlocked state;

19 when said video system is in said unlocked state, immediately generating a second control  
20 signal and a third control signal to terminate transmission of said first video signal to said mixer  
21 and said audio signal to said second output terminal, respectively;

22 when said code sequence and a previous sequence match, immediately terminating  
23 transmission of said second control signal and said third control so as to permit output of said  
24 first video signal and said audio signal; and

25 when said code sequence and said previous sequence do not match, passing different first

26 control signals to said character generator for inclusion of an error indication in said second  
27 video signal.

1       22. A video system having a playback mode of operation for reproducing a video  
2 image and a standby mode of operation wherein the video image is not reproduced, said video  
3 system comprising:

4       a microcomputer;  
5       at least one input device providing a coded sequence and a lock function signal to said  
6 microcomputer;

7       a video signal processor generating a first video signal;  
8       a character generator receiving first control signals from the microcomputer for  
9 generating second video signals including character data;

10       a mixer receiving said first video signal and said second video signal and providing a  
11 mixed video signal to a first output terminal; and

12       an audio signal processor providing an audio signal to a second output terminal,  
13       said first output terminal and said second output terminal respectively supplying  
14 reproducible video signals and reproducible audio signals to an external television,

15       said video system receiving said lock function signal only in said standby mode of  
16 operation,

17       said microcomputer responding to a last character of said code sequence received by said  
18 microcomputer by immediately verifying the status of the video system to determine whether

19 said video system is in a locked state and whether said video system is in an unlocked state.

1 23. (Amended) The video system of claim 22, further comprising:  
2 a video muting circuit coupled between said video signal processor and said mixer for  
3 transmitting said first video signal; and  
4 an audio muting circuit operatively coupled to said audio processor;  
5 said microcomputer providing a second control signal and a third control signal to said  
6 video muting circuit and said audio muting circuit to terminate transmission of said first video  
7 signal to said mixer and said audio signal to said second output terminal, respectively, when said  
8 video system is in said unlocked state;  
9 said microcomputer comparing a stored previous sequence with said code sequence when  
10 said video system is in said locked state;  
11 said microcomputer terminating transmission of said second control signal and said third  
12 control signal so as to permit output of said first video signal and said audio signal when said  
13 code sequence and said previous sequence match; and  
14 said microcomputer supplying different first control signals to said character generator so  
15 as to include an error indication in said second video signal when said code sequence and said  
16 previous sequence do not match.

1 24. (Amended) A video system having a playback mode of operation for reproducing a  
2 video image and a standby mode of operation wherein the video image is not reproduced, said



3 video system comprising:

4 a microcomputer responsive to input signals from a keyboard or a remote control receiver  
5 for controlling the video system;

6 a video signal processor receiving and processing a first video signal for video display;

7 a character generating circuit responsive to character data output from said  
8 microcomputer, generating a second video signal for said video display;

9 a mixer receiving said first video signal and said second video signal and mixing said first  
10 and second video signals for said video display; and

11 a video mute circuit responding to a first control output from said microcomputer by  
12 preventing said first video signal from being applied to said mixer;

13 said microcomputer generating said first control output for a period of time defined by a  
14 first input of lock key data followed by a first input of a secret code and a second input of said  
15 lock key data followed by a second said input of a secret code; and

16 said microcomputer terminating transmission of said first control output upon expiration  
17 of said period of time.

1 25. The video system of claim 24, further comprised of said microcomputer  
2 determining whether there is lock key data input from either said keyboard or said remote control  
3 when said video system is in a power-standby status and controlling said character generating  
4 circuit to display a corresponding prompt message on a screen requesting a user to input a secret  
5 code one character at a time;

6        said character generating circuit changing said displayed prompt message to correspond  
7        to a desired one of a sequence of characters of said secret code said user is to input following an  
8        input of a previous one of said characters;

9        said microcomputer storing each input character of said secret code when said input  
10       character corresponds to a numerical key of either said keyboard or said remote control;

11       said microcomputer checking said video system to determine whether said video system  
12       is in a locked state after said user completes input of the secret code;

13       said microcomputer controlling said video mute circuit responsive to said first control  
14       output to prevent output of said first video signal when said video system is determined not to be  
15       in said locked state; and

16       said microcomputer comparing said input secret code to a code previously stored when  
17       said video system is determined to be in said locked state and, when there is a match,  
18       determining that said period of time has expired and disabling said video mute circuit.

26.    The video system of claims 25, further comprised of said microcomputer  
memorizing said secret code when said system is determined to not be in said locked state.

1        27.    A locking method for controlling an on-screen display system having a lock key  
2        on a keyboard or a remote control, said method comprising the steps of:

3        checking for a key-data input signal from one of said keyboard or said remote control  
4        during a system power standby mode of operation until said checking step identifies said key-

5 data input signal as being indicative of an input from said lock key;

6 displaying prompts, on a screen, for a lock function setting state by employing an on-  
7 screen display function when the checking step identifies said key-data input signal as being  
8 indicative of an input from said lock key and sequentially storing and displaying, on said screen,  
9 a secret code input by a user in response to said prompts;

10 immediately making a determination of whether the on-screen display system is in a  
11 locked state with said on-screen display system preventing viewing of any video program other  
12 than said prompts for said lock function setting state after the secret code is input to the on-  
13 screen display system;

14 storing the secret code as a lock code, clearing said screen of said prompts and said secret  
15 code displayed during the displaying step, and locking the on-screen display system when the  
16 determination indicates that the on-screen display system is not in said locked state;

17 making a comparison between the secret code and a stored lock code already in the on-  
18 screen display system when the determination indicates that the on-screen display system is in  
19 said locked state; and

20 clearing the secret code from the screen and unlocking the on-screen display system with  
21 said on-screen display system enabling said viewing when said comparison determines that the  
22 secret code and the stored lock code match each other.

1 28. A locking/unlocking method for a video system having a microcomputer  
2 controlling the video system, a key matrix transmitting user input information to the

3 microcomputer, a remote control receiver receiving remote control signals from a remote control  
4 transmitter and converting the signals into digital key data, a video signal processor reproducing  
5 and outputting a video signal of a video program, an on screen display unit receiving  
6 alphanumeric information data from the microcomputer and displaying an image signal of the  
7 alphanumeric information data on a display screen, and a mixer mixing the video signal from the  
8 video processor and the image signal from the on screen display unit and outputting the mixed  
9 signal to a video receiver, said method comprising the steps of:

10 checking for an input signal, to said microcomputer, from a lock key of said key matrix  
11 during a system power stand-by state and remaining in said stand-by state until said checking  
12 step determines that said input signal has been input to said microcomputer;

13 displaying prompts for setting a lock state of a lock setting function using an on screen  
14 display function for displaying said prompts on said display screen when said checking step  
15 determines that said input signal from said lock key has been input;

16 storing in a memory and displaying on said display screen a secret code sequentially input  
17 by a user using the key matrix in response to said prompts;

18 determining whether the lock state of said system is a locked state or an unlocked state  
19 after a last character of said secret code has been input;

20 storing the input secret code as a lock secret code, clearing the display screen and locking  
21 the video system when the lock state is determined to be in said unlocked state;

22 comparing the input secret code with a lock code previously stored in the microcomputer  
23 when the lock state is determined to be in said locked state;

24 displaying an error message according to the alphanumeric information data from said  
25 microcomputer when said comparing step determines that said input secret code does not match  
26 said previously stored lock code; and

27 clearing the secret code from the display screen, and unlocking the video system when  
28 said comparing step determines that said input secret code matches said previously stored lock  
29 code.

1 29. (Amended) A video system having a mode of operation for generating output signals  
2 having video components and a standby mode of operation wherein said output signals are not  
3 generated, said system comprising:

4 a microcomputer responding to input signals selectively input from a keyboard or a  
5 remote control receiver by controlling display of video images corresponding to said video  
6 components through generation of a control output for a period of time defined by a first input of  
7 lock key data followed by a first input of a secret code and a second input of said lock key data  
8 followed by a second input of a secret code;

9 a video signal processor receiving and processing a first video signal;

10 a character generating circuit responding to character data output from said  
11 microcomputer by generating a second video signal;

12 a mixer generating said video components by mixing said first video signal and said  
13 second video signal; and

14 a video mute circuit responding to said control output by preventing application of said

15 first video signal to said mixer.

1 30. The video system of claim 29, further comprised of said microcomputer terminating  
2 transmission of said control output upon expiration of said period of time.

1 31. The video system of claim 29, further comprised of said microcomputer responding  
2 to a determination that lock key data has been input from said keyboard or said remote control  
3 when said system is in said standby mode, by controlling said character generating circuit to  
4 display a corresponding message on a video screen prompting a user of said system to input a  
5 secret code one character at a time.

1 32. The video system of claim 31, further comprised of said character generating circuit  
2 changing said displayed prompt message seriatim to display corresponding characters in a  
3 sequence of said secret code input by the user.

4 33. The video system of claim 29, further comprising:  
5 said microcomputer making a determination of whether said system is in a locked state  
6 after completion of input of said secret code;  
7 said microcomputer generating said control output when said determination indicates that  
8 said system is not in said locked state; and  
9 said microcomputer making a comparison of said secret code to an earlier code

10 previously stored when said determination indicates that said system is in said locked state and,  
11 when said comparison establishes a match between said secret code and said earlier code,  
12 terminating generation of said control output.

1 34. The video system of claim 33, further comprised of said microcomputer memorizing  
2 said secret code when said determination establishes that said system is not in said locked state.

1 35. (Amended) A video system having a mode of operation for generating output signals  
2 having audio components and video components and a standby mode of operation wherein said  
3 output signals are not generated, said system comprising:

4 a microcomputer responding to input signals selectively input from a keyboard or a  
5 remote control receiver by controlling broadcast of audio sounds corresponding to said audio  
6 components through generation of a control output for a period of time defined by a first input of  
7 lock key data followed by a first input of a secret code and a second input of said lock key data  
8 followed by a second input of a secret code;

9 a video signal processor receiving and processing a first video signal;

10 an audio processor generating said audio components;

11 a character generating circuit responding to character data output from said  
12 microcomputer by generating a second video signal;

13 a mixer generating said video components by mixing said first video signal and said  
14 second video signal; and

15       an audio mute circuit responding to said control output by muting said audio sounds.

1       36. The video system of claim 35, further comprised of said microcomputer terminating  
2       transmission of said control output upon expiration of said period of time.

1       37. (Amended) The video system of claim 35, further comprised of said microcomputer  
2       responding to a determination that lock key data has been input from said keyboard or said  
3       remote control receiver when said system is in said standby mode, by controlling said character  
4       generating circuit to display a corresponding message on a video screen prompting a user of said  
5       system to complete entry of one of said first input or said second input one character at a time.

1       38. The video system of claim 37, further comprised of said character generating circuit  
2       changing said displayed prompt message seriatim to display corresponding characters in a  
3       sequence of said secret code input by the user.

1       39. (Amended) The video system of claim 35, further comprising:  
2       said microcomputer making a determination of whether said system is in a locked state  
3       after completion of each said entry of said secret code;  
4       said microcomputer generating said control output when said determination indicates that  
5       said system is not in said locked state; and  
6       said microcomputer making a comparison of said second input of a secret code to said



7 first input of a secret code when said determination indicates that said system is in said locked  
8 state and, when said comparison establishes a match between said second input of a secret code  
9 and said first input of a secret code, terminating generation of said control output.

1 40. The apparatus of claim 38, with said microprocessor having a memory storing a  
2 reference, said microprocessor comparing said second lock-key signal with said reference and  
3 generating an error signal when said second lock-key signal is not identical to said reference.

1 41. The apparatus of claim 40, with said character generator applying an error  
2 message signal to said mixer when said second lock-key signal is not identical to said reference.

1 42. The apparatus of claim 41, generating a second video signal representing that said  
2 second lock-key signal is not identical to said reference by with said mixer mixing said error  
3 message signal with said video signal.

1 43. The apparatus of claim 38, with said mute circuit locking said audio processor and  
2 preventing said audio signal from being transmitted outside of said audio processor during said  
3 interval of time.

1 44. A process for locking and unlocking a signal, comprising the steps of:  
2 receiving from a keyboard a first lock key data signal;

3       generating a first character signal in response to said first lock-key data signal;  
4       generating a video signal reproduced from a recording medium;  
5       mixing said video signal and said first character signal;  
6       displaying on a screen a first image representing said video signal and said first character  
7       signal;  
8       receiving a second lock-key data signal after receiving said first lock-key data signal;  
9       generating a second character signal in response to said second lock-key data signal;  
10       mixing said video signal and said second character signal;  
11       displaying on a screen a second image representing said video signal and said second  
12       character signal;  
13       making a determination of whether said second lock-key data signal is identical to said  
14       first lock-key data signal;  
15       locking said video signal and preventing application of said video signal to said mixer in  
16       dependence upon said determination.

1       45.     The process of claim 44, further comprised of the step of:  
2       releasing said locked video signal and applying said video signal to said mixer after said  
3       video signal has been prevented from being mixed with said character signal.

1       46.     The process of claim 44, further comprised of the steps of:  
2       generating an error message signal in accordance with said determination when said

3 second lock-key data signal is not identical to said first lock-key data signal;  
4 mixing said error message signal with said video signal; and  
5 displaying a third image representing said error message signal and said video signal.

1 47. The process of claim 44, further comprised of the steps of:  
2 generating an audio signal reproduced from said recording medium; and  
3 locking said audio signal and releasing said muted video signal in dependence upon said  
4 determination.

1 48. A process for locking and unlocking a signal, comprising the steps of:  
2 receiving a first lock key data signal;  
3 generating a first character signal in response to said first lock-key data signal;  
4 generating a video signal reproduced from a recording medium;  
5 mixing said video signal and said first character signal;  
6 displaying a video image representing said video signal and said first character signal;  
7 receiving a second lock-key data signal after receiving said first lock-key data signal;  
8 generating a second character signal in response to said second lock-key signal;  
9 mixing said video signal and said second character signal;  
10 making a determination whether a locking state of barring said mixing of said video  
11 signal or an unlocking state of permitting said mixing of said video signal is in effect; and  
12 changing said unlocking state and said locking state in accordance with said

13 determination.

1       49.   The process of claim 48, further comprised of the step of locking said video signal  
2 and barring said video signal from being mixed with said second character signal in response to  
3 said determination when said unlocking state is in effect.

1       50.   The process of claim 48, further comprised of the step of making a second  
2 determination of whether said second lock-key data signal is identical to a reference.

1       51.   The process of claim 50, further comprised of the step of changing said unlocking  
2 state and said locking state in dependence upon said second determination.

1       52.   The process of claim 50, further comprised of the step of generating an error  
2 message signal in response to said second determination when said second lock-key data signal is  
3 not identical to said reference.

1       53.   The process of claim 50, further comprised of the steps of:  
2 mixing said video signal and said error message signal; and  
3 displaying an error image representing said error message signal and said second  
4 character signal.

1        54. The process of claim 48, further comprised of the steps of:  
2        generating an audio signal reproduced from said recording medium; and  
3        changing an lock state of preventing dissemination of said audio signal and an unlocking  
4        state of disseminating said audio signal in accordance with said determination.

1        55. A process for locking and unlocking a signal, comprising the steps of:  
2        receiving a first lock key data signal; ← ?  
3        generating a first character signal in response to a prompt screen signal;  
4        receiving a video signal; and audio signal  
5        mixing said video signal and said first character signal;  
6        receiving a second lock key data signal;  
7        generating a second character signal in response to second lock key data signal;  
8        mixing said video signal and said second character signal;  
9        making a determination whether said second lock key data signal is identical to a  
10       reference; and  
11       locking and unlocking said audio signal and video signal in dependence upon to said  
12       determination by preventing said mixing of said video signal during said locking and permitting  
13       said mixing of said video signal during said unlocking.

1        56. (Amended) A process for locking and unlocking a signal, comprising the steps of:  
2        receiving a first lock key data signal;

3       generating a first character signal in response to said first lock key data signal;  
4       receiving an audio signal;  
5       mixing said first character signal and a first video signal;  
6       displaying a first video image in correspondence with said mixing of said first character  
7       signal and said first video signal;  
8       receiving a second lock-key data signal after receiving said first lock-key data signal;  
9       generating a second character signal and a mode change signal in response to said second  
10       lock-key data signal;  
11       mixing said first character signal and a second video signal;  
12       displaying a second video image in correspondence with said mixing of said first  
13       character signal and said second video signal; and  
14       changing a locking state and an unlocking state of said audio signal in accordance with  
15       said mode change signal by preventing dissemination of said audio signal during said locking  
16       state and accommodating said dissemination during said unlocking state.

1       57.     The process of claim 56, further comprised of the steps of:  
2       generating a third video signal; and  
3       changing between a locked state by preventing said third video signal from being mixed  
4       with said character signal and an unlocked state of allowing said third video signal to be mixed  
5       with said character signal in response to said mode change signals.

1        58. The process of claim 56, further comprised of the steps of:  
2        making a determination whether said second lock-key signal is identical to a reference;  
3        generating an error message signal in accordance with said determination when said  
4        second lock-key signal is not identical to said reference;  
5        mixing said character signal and said error message signal; and  
6        displaying an error image representing said character signal and said error message signal.

1        59. A locking method for controlling an on-screen display system having a lock key  
2        on a keyboard or a remote control, said method comprising the steps of:  
3        checking for a key-data input signal received from a user during a system power standby  
4        mode of operation until said step of checking identifies said key-data input signal as being  
5        indicative of an input from said lock key;  
6        displaying prompts, on a screen of a display device, for a lock function setting state by  
7        employing an on-screen display function when the checking step identifies said key-data input  
8        signal as being indicative of an input from said lock key and sequentially storing and displaying,  
9        on said screen, an input code input by a user in response to said prompts;  
10       after the input code is input to the on-screen display system making a determination of  
11       whether the on-screen display system is in a locked state where said on-screen display system  
12       bars viewing of a video program;  
13       storing the input code as a lock code, clearing said screen of said prompts and said input  
14       code displayed during the displaying step, and barring viewing of the video program via the on-

15 screen display system when the determination indicates that the on-screen display system is not  
16 in said locked state;  
17 making a comparison between the input code and a stored code already in the on-screen  
18 display system when the determination indicates that the on-screen display system is in said  
19 locked state; and  
20 clearing the input code from the screen and permitting viewing of the program via the on-  
21 screen display system with said on-screen display system enabling said viewing when said  
22 comparison determines that the input code and the stored lock code match each other.